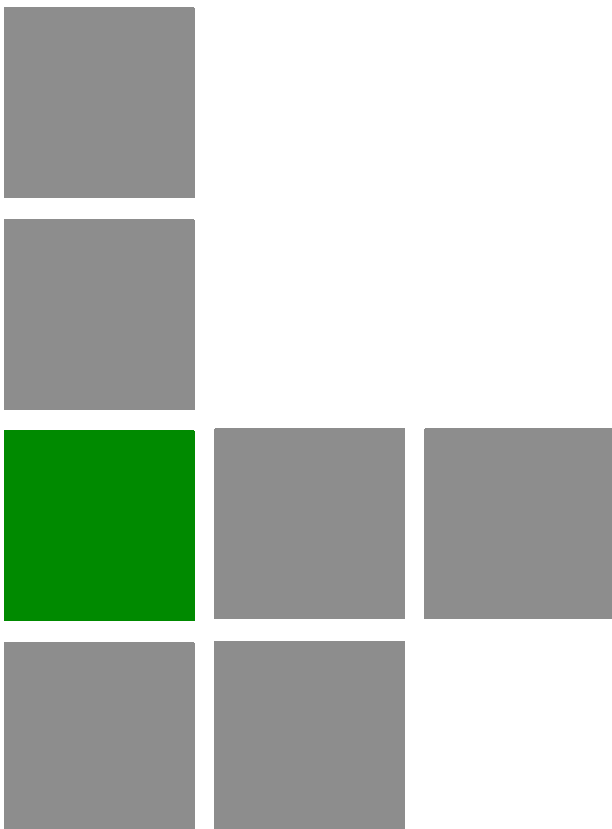


## BreezeMAX<sup>®</sup> USB 250

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## Operator Manual

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Software Version: 2.0  
December 2010  
P/N 215779

## Document History

Topic	Description	Date Issued
BreezeMAX® USB 250 User manual	This is the document's first release.	July 2010
General	Added installation and screens of the Macintosh version of WCM.	Release 2 November 2010
Specifications	Operating Frequency for 3.5 GHz model is 3.400~3.600 GHz	Release 2 November 2010
Authentication	Moved Authentication to Engineering settings.	Release 2 November 2010
Main window	Removed the "Service" entry.	Release 2 November 2010

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### IMPORTANT NOTE: Radiation Exposure Statement

This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment. End users must follow the specific operating instructions for satisfying RF exposure compliance. To maintain compliance with Canada RF exposure compliance requirements, please follow operation instruction as documented in this manual.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

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#### Disposal of Electronic and Electrical Waste

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## 1. About BreezeMAX USB250

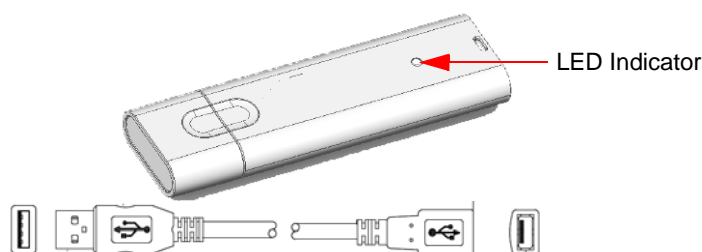
The BreezeMAX USB 250 device supports IEEE 802.16e-2005 state of the art Scalable OFDMA based Technology. BreezeMAX USB250 operates on 2.3, 2.5 and 3.5 GHz frequency licensed band. It provides users a seamless broadband wireless access, video streaming at home, office or on the move. To protect information transmitting through wireless network, standard security Sublayer PKMv2 EAP based user authorization/authentication and AES for data encryption are supported.

An easy-to-use Windows/Macintosh-based utility provides the graphic user interface for system/link status, configuration and firmware updates.

### 1.1 BreezeMAX USB250 Hardware

The BreezeMAX USB250 hardware consists of a USB modem, a USB connector adapter, and Quick Installation Guide.

The following figure shows the BreezeMAX USB250.



**Figure 1: BreezeMAX USB250 Unit and Adapter**

## 1.2 Specifications

### 1.2.1 Hardware Specifications

System	
CPU	BCSM250, Wave 2
Flash ROM	16MB
Network Interface	
USB	2.0
WiMAX Port	Two Printed Antennas

Standards	
Wireless	IEEE 802.16e-2005
I/O	
DC Power input port	DC +5.0V
LED indicator	WiMAX Link Status

## 1.2.2 Wireless Specifications

Model	2.3 GHz	2.5 GHz	3.5 GHz
Operating Frequencies	2.302 ~ 2.397 GHz	2.483 ~ 2.687 GHz	3.400~3.600 GHz
Channel Bandwidth	5/10 MHz	5/10 MHz	5/7/10MHz
Antenna Support Frequency	2302~2397 MHz	2483~2687 MHz	3400~3600 MHz
TX Output Power	+23 dBm (typical), 16QAM 3/4 with EVM -24dB		
Sensitivity (MRC)	Better than mRCT 6dB		
Antenna Gain	2 dBi		
Radio Type	Dual Receive, Direct Conversion Radio (CMOS), MIMO Rate 1 and Rate 2, Beam Forming		
Modulation	S-OFDMA, MIMO		
Modulation Technique	QPSK, 16QAM, 64QAM		
Network Architectures	WiMAX Forum NRM (Network Reference Model)		
Operating Channels	In Channel Step Size 250KHz		
Transmit Power Dynamic Range	45 dB		
Power Consumption	Below 2.5W		

## 1.2.3 Dimensions

Length x Width x Height (mm)	93.7mm x 28mm x 10.7mm
Weight	20g

## 1.2.4 Environmental Specifications

Operating Temperature	0° to +40°C
Storage Temperature	-20° to 60°C

Operating Humidity	max. 90%
Storage Humidity	max. 90%

## 1.2.5 Standards

Model	Standard	Details
2.3 GHz	CE	Health: EN 62311 (SAR)
		RF: EN 302 326
		EMC: EN 301 489-1 V1.4.1
		Safety: EN 60950-1, 2 <sup>nd</sup> edition
		Notify Body review (0560)
2.5 GHz	CE	Health: EN 62311 (SAR)
		Safety: EN 60950-1, 2 <sup>nd</sup> edition
		RF: ETSI 302544
		Reliability: ETSI 300 019-2-3
		EMC: ETSI 301 489-1 V1.4.1
3.5 GHz	CE	Health: EN 62311 (SAR)
		RF: EN 302 623
		EMC: EN 301 489-1 V1.4.1
		Safety: EN 60950-1, 2 <sup>nd</sup> edition
		Notify Body Review (0560)

## 1.3 LED Indication

Color	Status	Description
Red	On	<ul style="list-style-type: none"> <li>■ Power on</li> <li>■ No Network Entry</li> <li>■ Firmware download complete</li> <li>■ Driver initialized</li> </ul>
Yellow/green	Blinking	WiMAX connected

## 2. Installation

The following section will guide you through the hardware and software installation.

The software installs drivers on your laptop, which allow you to use the BreezeMAX USB250 just like a regular modem.

### 2.1 Prerequisites

Before installation, make sure you have a computer with the following:

- A minimum of 64MB available hard disk space
- An available USB 2.0 slot
- Operating System - Windows XP, Windows 7 or Windows Vista, or Apple Macintosh.



#### IMPORTANT

Windows Vista and Windows 7 users must install under Administrator mode for installation to be complete.

### 2.2 Installation Procedure - Windows



#### To install BreezeMAX USB:

- 1 Remove the plastic cap and slide the BreezeMAX USB250 into the USB port. The LED indicator turns on if the device is properly inserted.



#### NOTE

Ignore the “Found new hardware” message.

- 2 A new removable storage “WiMAXCM” is displayed in the Explorer (see [Figure 2](#)). If auto-run is enabled in your PC, the installer is executed automatically. Otherwise, execute the installer manually.



**Figure 2: Removable Storage “WiMAXCM” (Windows)**

- 3 The WiMAX Connection Manager Setup Wizard is displayed; Click **Next** to continue.



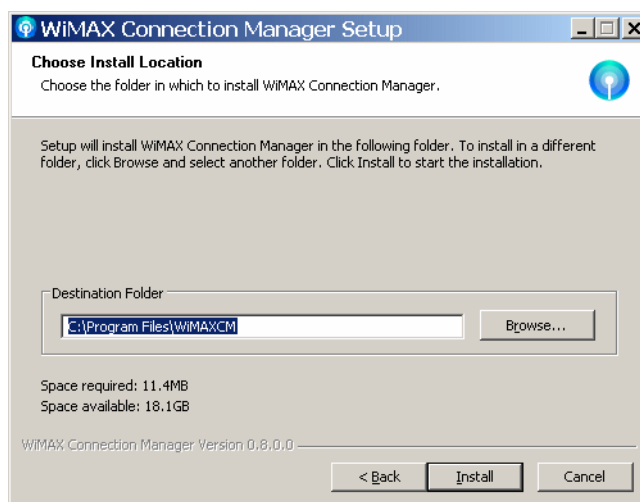
**Figure 3: WiMAX Connection Manager Setup Wizard Window**



#### NOTE

To review or make changes at this time, click **Back**. To cancel the installation process, click **Cancel**.

- 4 Select the installation path: Click **Browse** to select a different path from the default or click **Install** to start the installation in the current path.



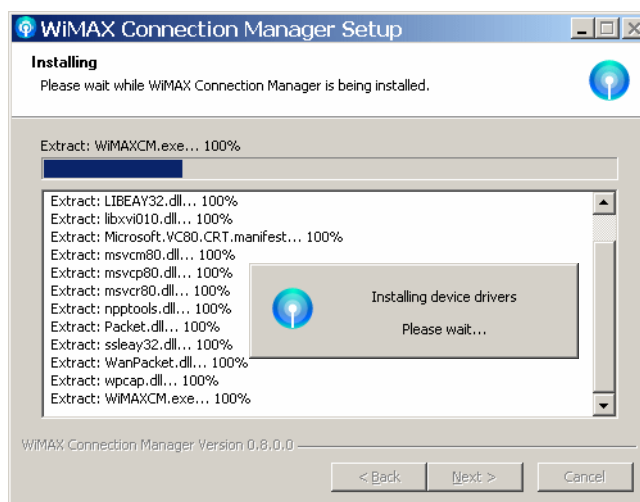
**Figure 4: Choose Installation Location Window**

- 5 The installation process starts, displaying the status of installed components. The utility and drivers are automatically installed and may take several minutes. Wait for the installation completion.

#### IMPORTANT

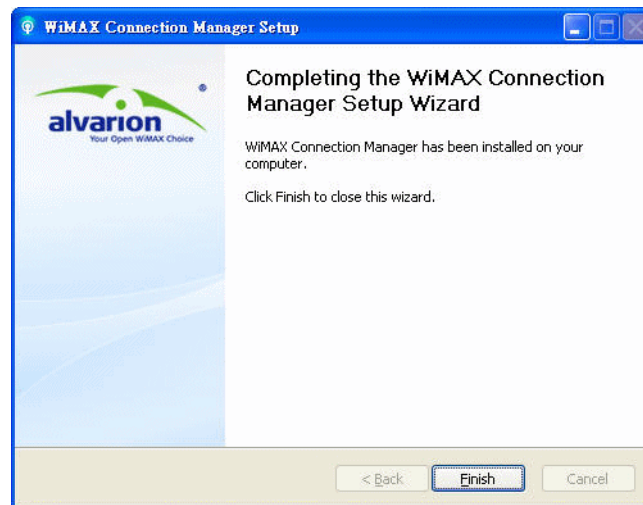


Windows Vista and Windows 7 users, a security screen may prompt you to identify the WCM program. To continue installation, click **Allow**.



**Figure 5: Installation Process**

- 6 When the installation is complete, click **Next**.



**Figure 6: Installation Complete**

- 7 The installation is complete. Click **Finish** to complete the installation and close the wizard.

After installing the WCM, an icon is displayed in your System Tray and the Connection Manager main window opens automatically.



**Figure 7: WiMAX Connection Manager**

- 8 If necessary, proceed either with [“Settings the WiMAX Connection Manager \(WCM\)” on page 15](#) or [“Viewing Status Details” on page 20](#).

## 2.3 Installation Procedure - Macintosh

This section provides the software installation of USB250 for Macintosh OS X 10.5 and above. Also, this section describes how to create a network service related to the new WiMAX network interface in Macintosh OS X.

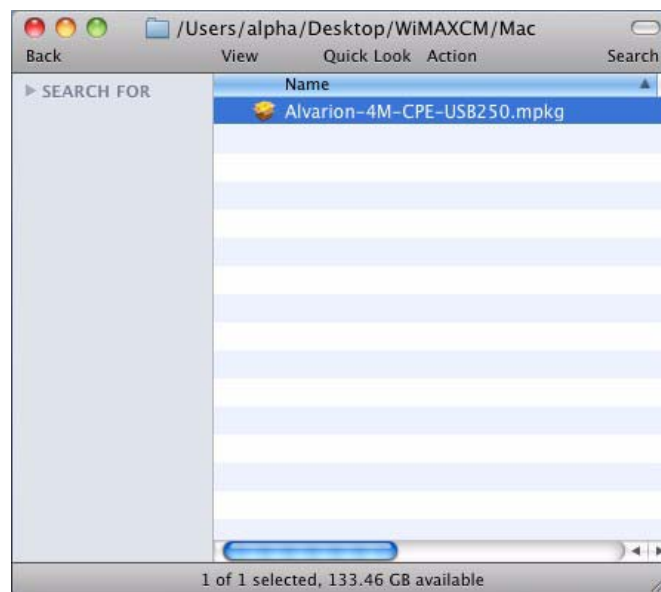


**To install BreezeMAX USB WiMAX Connection Manager (WiMAXCM):**

- 1 Remove the plastic cap and slide the BreezeMAX USB250 into the USB port. The LED indicator turns on and a new drive WiMAXCM is added to the Devices list.
- 2 A new removable storage “WiMAXCM” is displayed (see [Figure 8](#)).

**Figure 8: Removable Storage “WiMAXCM” (Macintosh)**

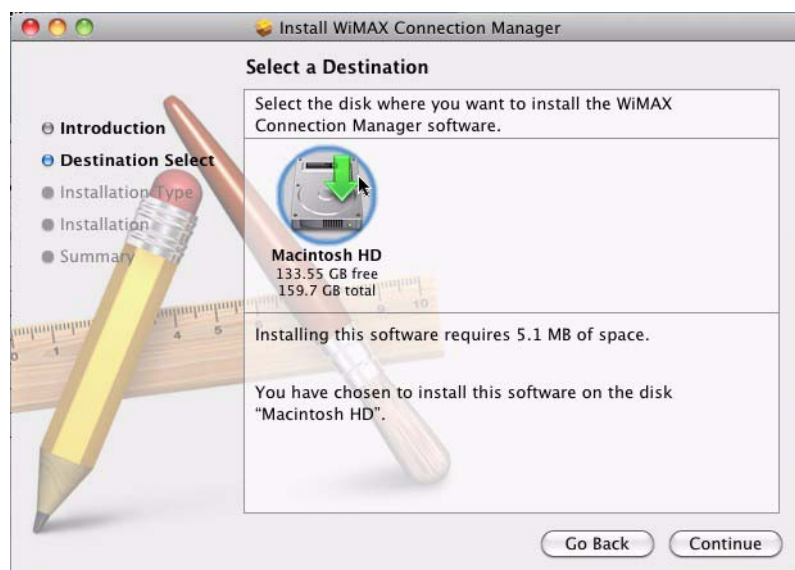
- 3 Browse to the “Mac” folder and double-click the \*.mpkg file to install the WiMAX Connection Manager (see [Figure 9](#)). The WiMAX Connection Manager Setup Wizard is displayed, showing the Introduction section (see [Figure 10](#)).

**Figure 9: Double-click the *mpkg* File**



**Figure 10: Install WiMAX Connection Manager - Introduction**

- 4 In the WiMAX Connection Manager Setup Wizard click **Continue** (Figure 10). The "Destination Selection" page is displayed (Figure 11).



**Figure 11: Destination Selection**

- 5 Select the disk to which to install the WiMAX Connection Manager (WCM) software and click **Continue**. The Installation Type window is displayed (Figure 12).

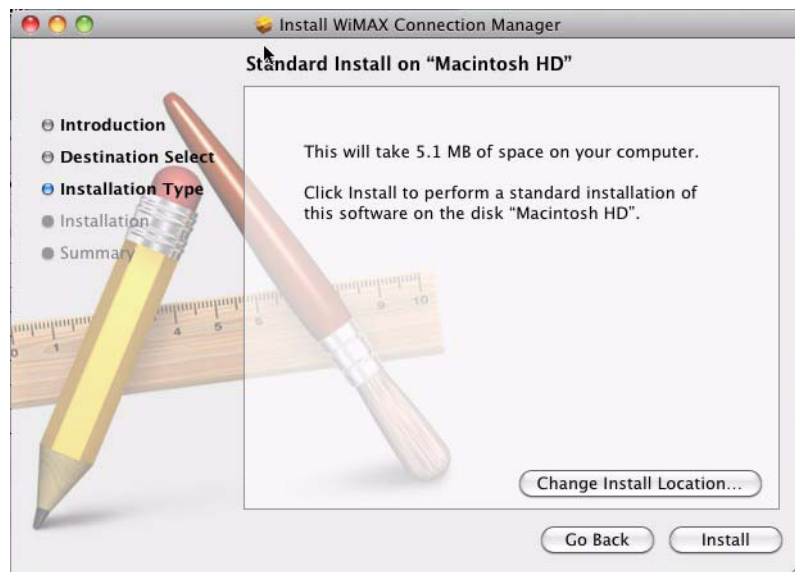


Figure 12: Installation Type

**NOTE**

To review or make changes at this time, click **Go Back**. To change the installation path, click **Change Install Location** and select a different path from the default.

- 6 Click **Install**. A window is displayed, requiring the permitted user credentials on this PC to install the application (usually administrator). Enter the name and password and click **OK**.



Figure 13: Changing the Installation Location Window

The following message is displayed, requiring the user to restart the system after installation:



Figure 14: Continue Installation

- 7 Click **Continue Installation** (to cancel the installation process, click **Cancel**). The installation process starts.
- 8 When the installation is complete, click **Restart**.

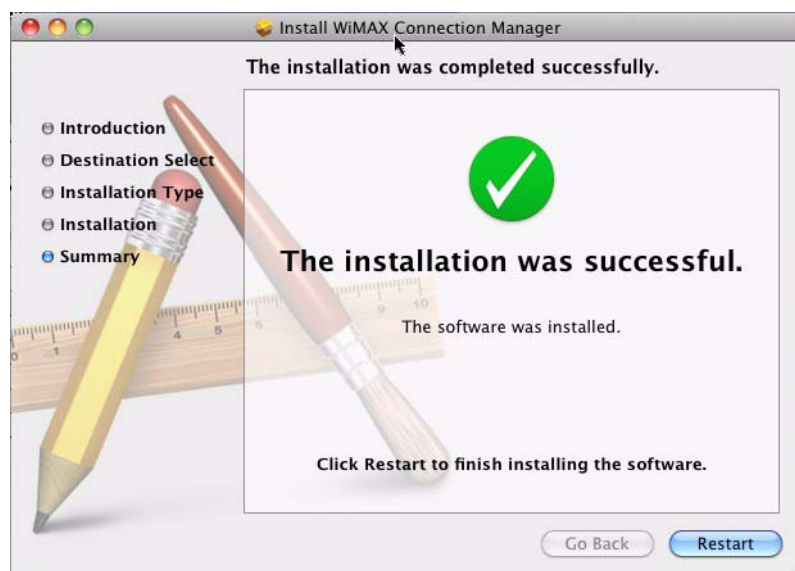


Figure 15: Installation Completion



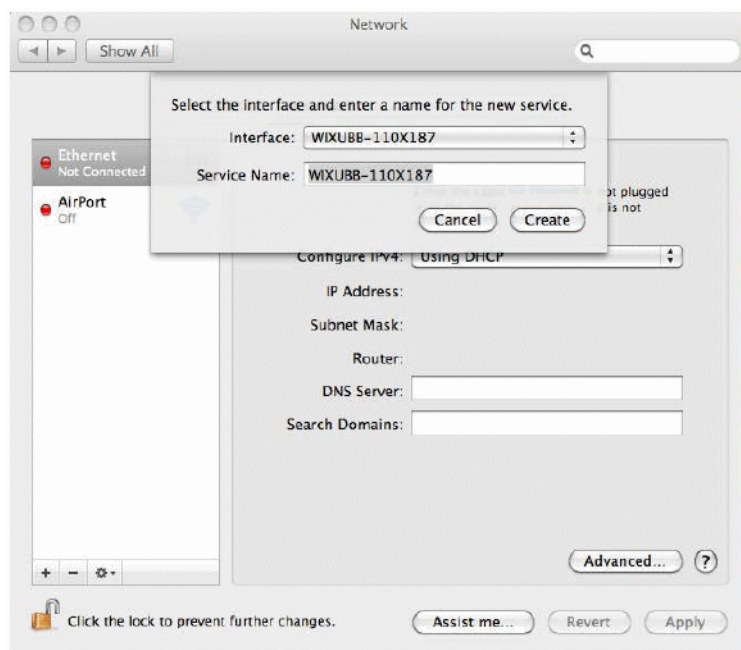
To create a network service related to the new WiMAX network interface:

If this is the first time you use the device in your laptop, the following window is displayed to prompt for adding a new network service.



**Figure 16: A New Network Interface has been Detected**

- 1 Click **Network Preferences**. The Network window is displayed with the following message (see Figure 17). The Interface and Service Name fields are automatically filled in by the system.



**Figure 17: Network Window and Message**

- 2 Click **Create** to continue. The Network window displays the Location: Automatic.



**Figure 18: Network - Automatic Location**

- 3 Click **Apply** to complete the configuration.
- 4 To enable Engineering menus, terminate WiMAXCM.app and copy the file *Engineer.dylib* to the folder */Applications/WiMAXCM.app/Contents/MacOS/*.
- 5 After restart, the WCM application main window is displayed.

## 3. Uninstalling the Software

The following section will guide you through the BreezeMAX USB250 software uninstallation procedure.

### 3.1 Prerequisites

Before proceeding, ensure that your WiMAX Connection Manager is closed and the BreezeMAX USB250 is not plugged in to facilitate an easy uninstallation procedure.

#### IMPORTANT



A reboot will be required after uninstalling the WiMAX Connection Manager.

## 3.2 Uninstallation Procedure- Windows



### To uninstall BreezeMAX USB:

- 1 Navigate to Start > Programs > WCM and click **Uninstall**.
- 2 You are prompted to verify the process. Click **Yes** to proceed.
- 3 The Windows Installer removes the WCM software from your system.

## 3.3 Uninstallation Procedure - Macintosh



### To uninstall BreezeMAX USB:

- 1 Drag and drop the WiMAXCM icon from the Application window into the "Trash" icon.



Figure 19: Macintosh Application Window

- 2 Restart your PC and empty the "Trash". The following message appears:



Figure 20: Emptying the "Trash" After Restarting the PC



- 3 Click **Empty Trash** to complete the uninstallation procedure.

You cannot empty the “Trash” without restarting your PC. If you try to do so, the following message appears:



**Figure 21: Trying to Empty the “Trash” without Restarting the PC**

## 4. Using the BreezeMAX USB250

Your BreezeMAX USB250 comes with an easy-to-use graphic user interface. The following chapter provides information for login and connecting to your WiMAX account.



### IMPORTANT

Menu screens are subject to change and may differ from the actual working sample.

### 4.1 Prerequisites

Before you can connect to your network, make sure you have the following:

- WiMAX account information as supplied by your service provider.
- Required software installed from the unit (as described above).
- BreezeMAX USB250 inserted (with or without the USB cable adapter).

### 4.2 Settings the WiMAX Connection Manager (WCM)

This chapter describes the general settings available for the users. For setting additional parameters available for the Operator only, refer to [“Configuring Engineering Settings” on page 23](#).



**To configure general settings:**

- 1 In the main WCM window click **Settings**. The Settings page is displayed, containing the Basic tab available for the end-user, and also Authentication, Advance, Channel Plan and DM tabs (engineering tabs) available for the Operator only.

If engineering tabs are not enabled, perform the following:

For Windows:

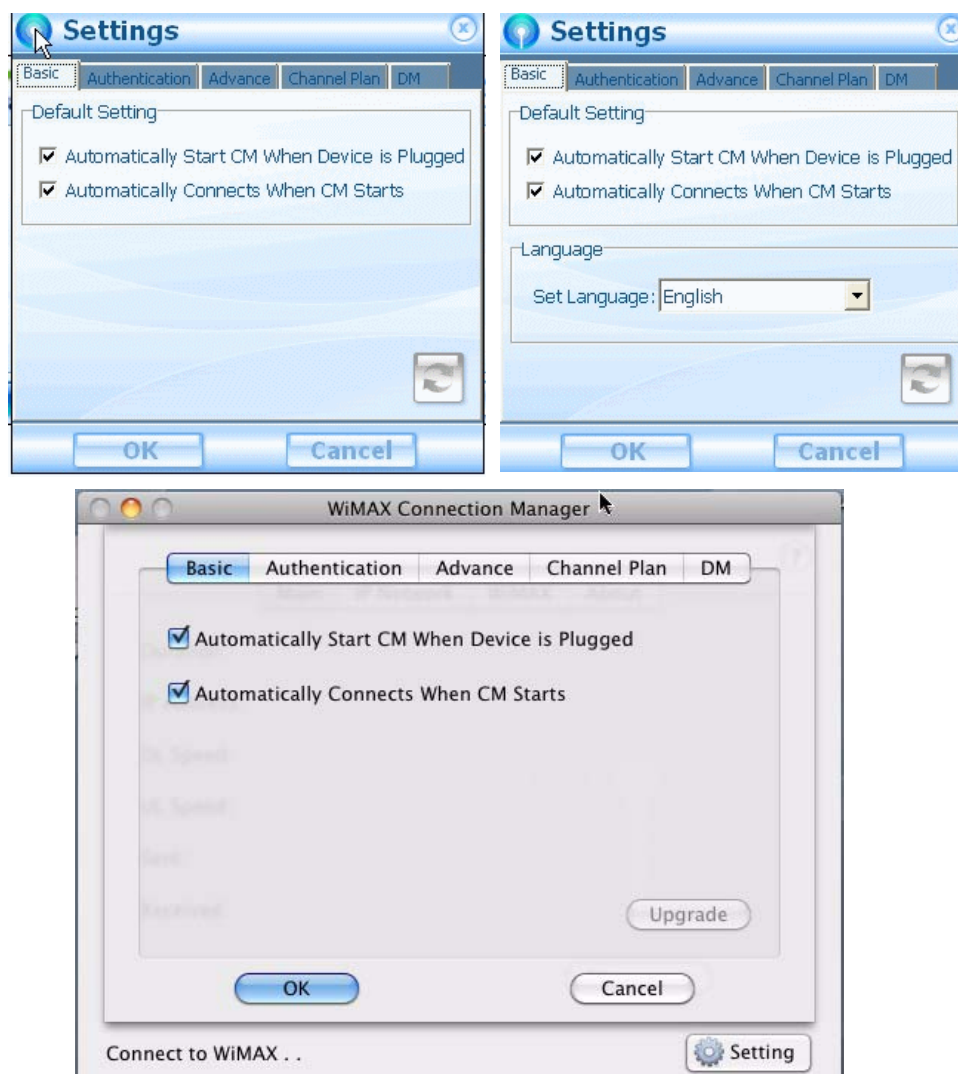
- a Close the Setting tab if it is open.
- b Copy the file *Engineer.dll* from the release package and place it in the installation path of the WiMAX Connection Manager. Default path is *C:\Program Files\WiMAXCM\*.
- c In the main WCM window click **Settings**; the three engineering tabs Advance, Channel Plan and DM are displayed.

For Macintosh:

- a Close the WiMAXCM application window if it is open.
- b Copy the file *Engineer.dylib* to the folder */Applications/WiMAXCM.app/Contents/MacOS/*.
- c Restart the WiMAXCM application; the main window is displayed, including the Advance, Channel Plan and DM tabs.

**NOTE**

The Basic tab may contain Language selection, depending on your configuration.



**Figure 22: Setting Page: Basic Tab(Windows and Macintosh)**

**2** In the **Basic** tab select or deselect the following and click **OK**:

- » Automatically Start CM when Device is Plugged: If it is enabled, WiMAX Connection Manager starts automatically when the USB250 is plugged into the PC. (Default: Enabled)
- » Automatically Connects When CM Starts: If it is enabled, WiMAX Connection Manager tries to connect to WiMAX network automatically when it starts. (Default: Enabled)
- » Language (if enabled for display): select the language (default: English).

- 3 To initiate SW Upgrade procedure, click the Upgrade button (in Windows -



). Refer to “Software Upgrade” on page 33.

## 4.3 Connecting to the WiMAX Network

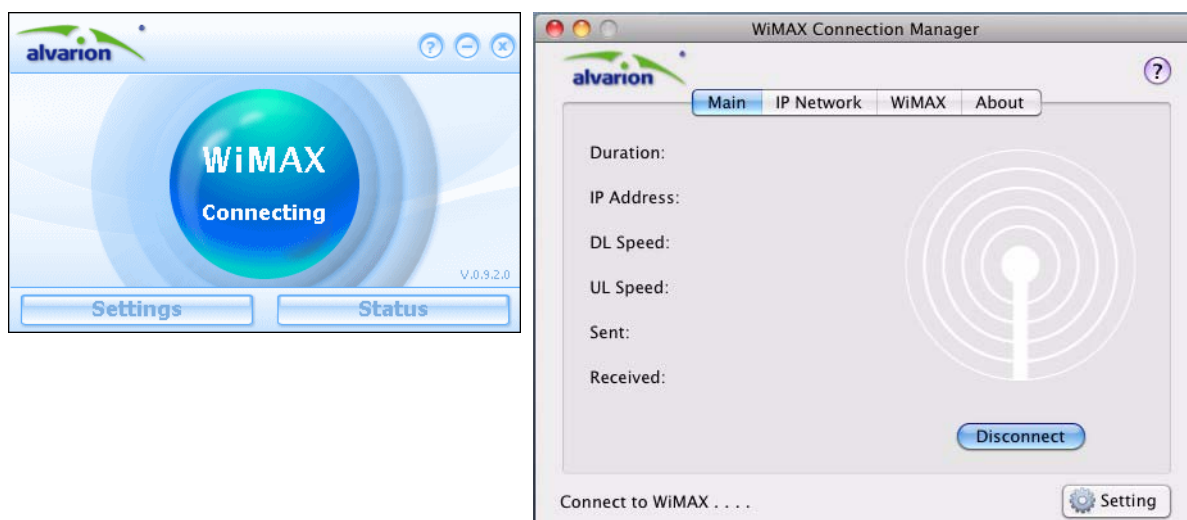
This section describes how to connect to WiMAX network with proper configurations.



### To connect to WiMAX network:

- 1 Navigate to Start > Programs > WiMAX Connection Manager

If “Automatically Connects When CM Starts” is enabled, a blue button with dynamic background is displayed and CM will try to connect any available WiMAX base station (BS).



**Figure 23: CM Main Window: WiMAX Connecting (Windows and Macintosh)**

In Windows - If “Automatically Connects When CM Starts” is disabled, click the orange button to start the connection.

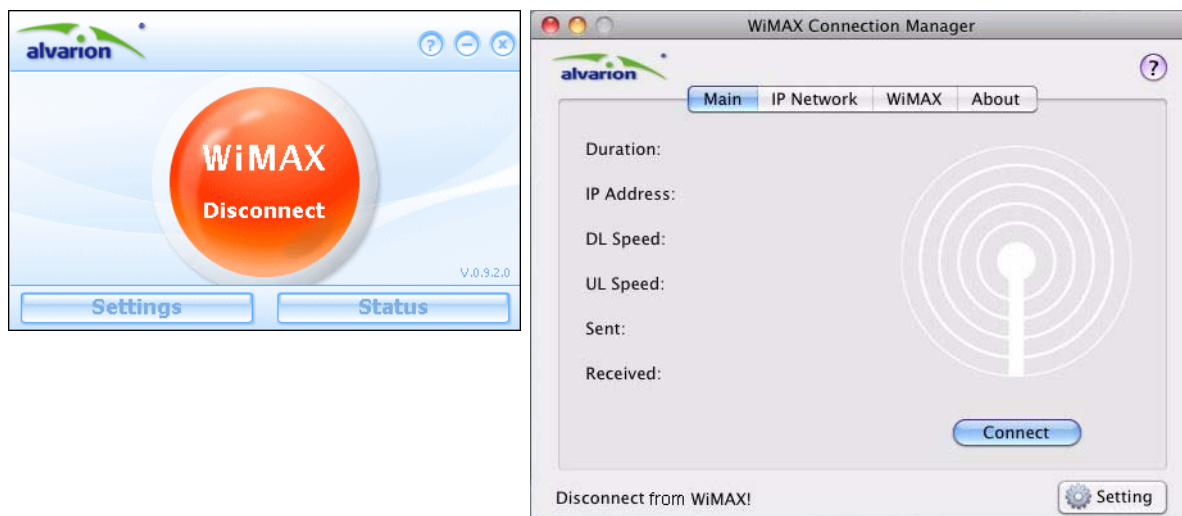


Figure 24: CM Main Window: WiMAX Disconnected (Windows and Macintosh)

## 4.4 Operation Verification

When connected to the WiMAX network, a small circle with several concentric circles are displayed (see Figure 25). The concentric circles (in Windows colored orange) represent WiMAX signal strength.

### IMPORTANT



In the event that signal strength is low, tilting the USB device while attached to the USB Connector adapter may improve signal strength and quality. Adjusting the USB device position may also improve signal quality.

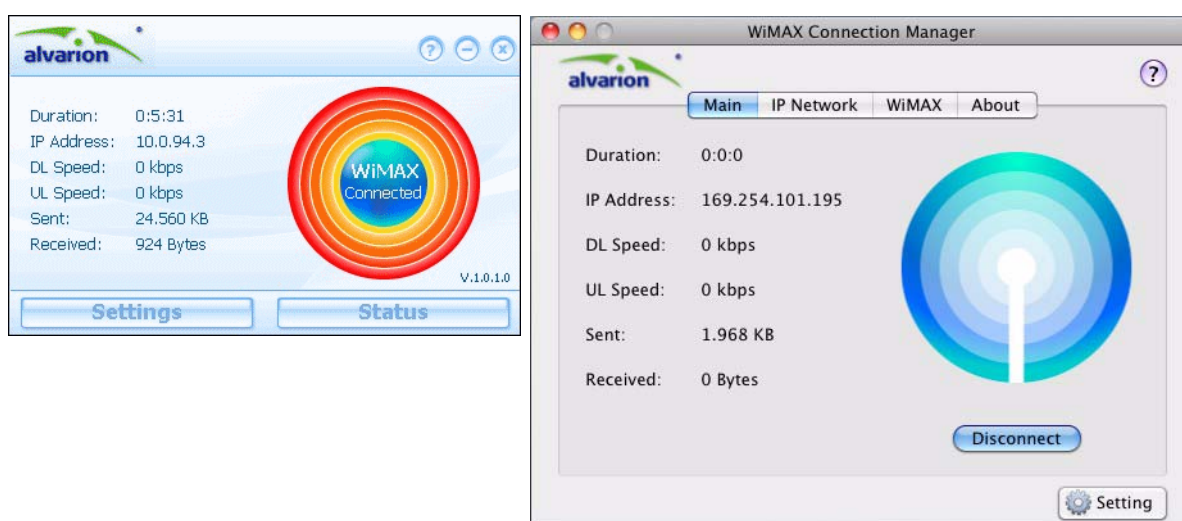


Figure 25: CM Main Window: WiMAX Connected (Windows and Macintosh)

Some basic information is also shown in this window (Figure 25), as described in the following table:

**Table 1: Information in the CM Main Window**

Item	Description
Duration	Time (HH MM SEC) during which there is connection to WiMAX
IP Address	Address of the WiMAX server
DL Speed	Downlink speed in kbps
UL Speed	Uplink speed in kbps
Sent	Data sent in KB/MB/GB
Received	Data received in KB/MB/GB

- To verify proper operation of the unit, examine the LED indicator.
- To verify data connectivity, from the end-user's PC or from a portable PC connected to the unit, connect to a known internet site (e.g [www.Alvarion.com](http://www.Alvarion.com)).
- To disconnect from the network, click the blue circle.

An Error message is displayed when the CPE does not find a base station.

## 4.5 Viewing Status Details

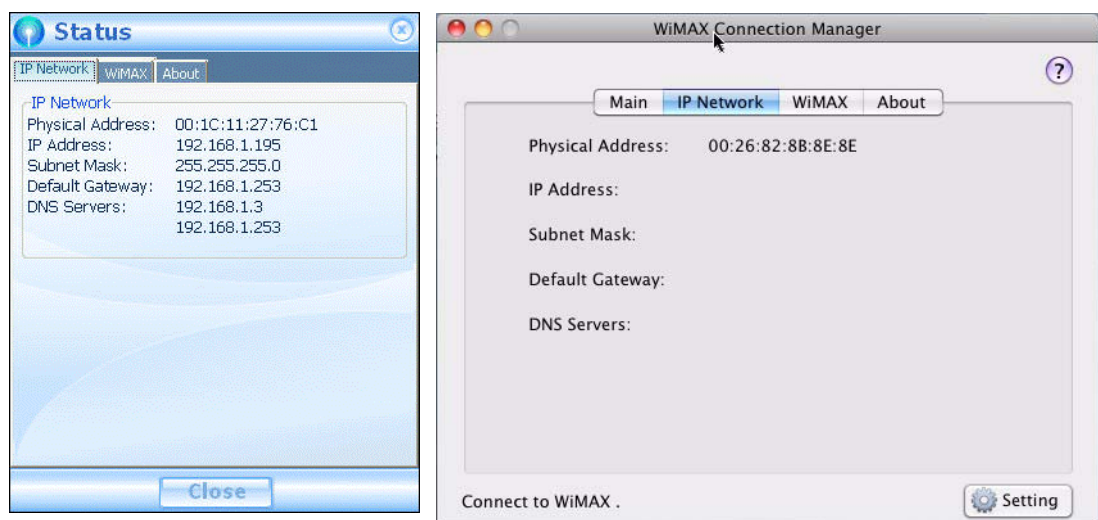
In addition to the basic information that appears in the main window, you can view detailed information on the various device parameters.



### To view status details:

- 1 In Windows only - In the main window click **Status**. The Status page is displayed, showing the IP Network tab.
- 2 To view various parameters, select the appropriate tab:

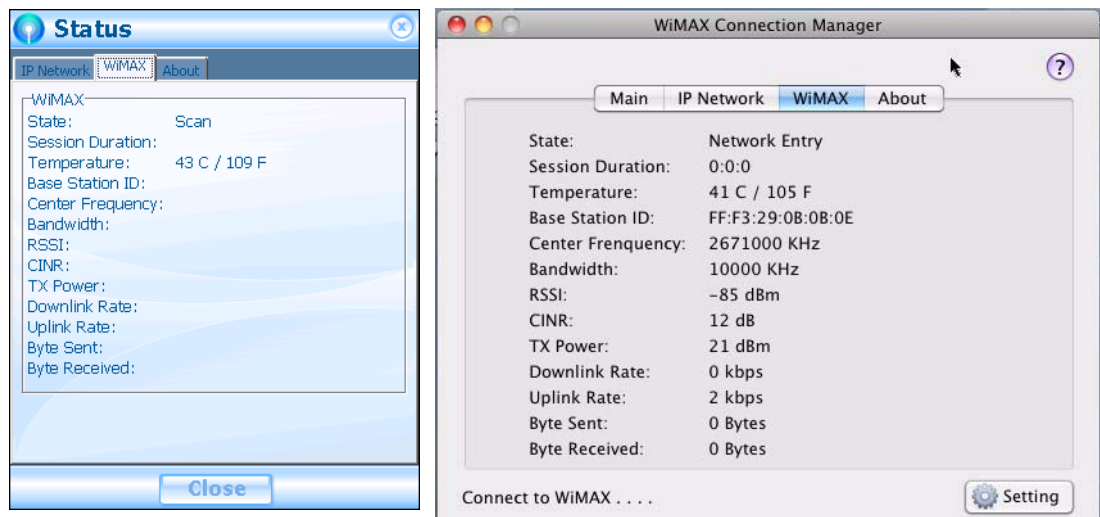
- The IP Network tab includes:
  - » Physical Address
  - » IP Address - WAN IP address. For DHCP mode - IP address acquired on the WAN interface is displayed. Otherwise it is 0.0.0.0
  - » Subnet Mask
  - » Default Gateway - Gateway IP address
  - » DNS Servers - Domain Name System servers IP address(es)



**Figure 26: Status - IP Network Tab (Windows and Macintosh)**

- The WiMAX tab includes:
  - » State - The status of the device, including “Init”, “Ready”, “Scan”, “Network Entry”, “Operational”, and “Idle”.
  - » Session Duration - Time of device function (hours:minutes:seconds)
  - » Temperature - Unit’s current temperature
  - » Base Station ID - Base Station ID number (e.g. 00:01:21:00:03:5A)
  - » Center Frequency - The middle frequency of the bandwidth of a channel.
  - » Bandwidth

- » RSSI - Currently received signal strength indication
- » CINR - Carrier to Interference-plus-Noise Ratio [in decibels (dB)]
- » TX Power - Transmission power
- » Downlink Rate - Rate (Kbytes per second) of downlink transmitted bytes
- » Uplink Rate - Rate (Kbytes per second) of uplink transmitted bytes
- » Byte Sent - Total number of transmitted bytes
- » Byte Received - Total number of received bytes



**Figure 27: Status - WiMAX Tab (Windows and Macintosh)**

■ The About tab includes

- » Product Name
- » Product Version
- » Driver Version
- » Firmware Version
- » Copyright
- » URL



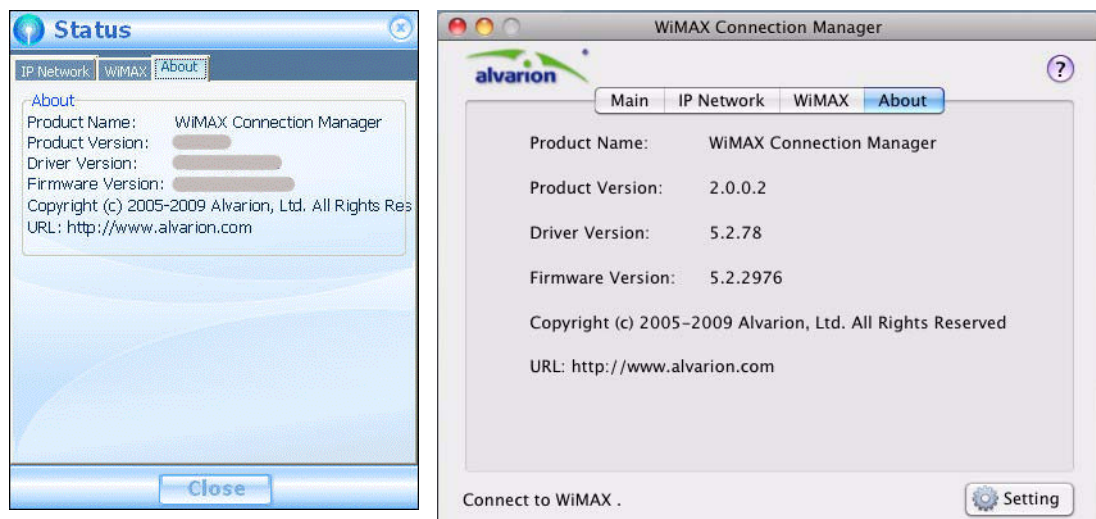


Figure 28: Status - About Tab (Windows and Macintosh)

## 5. Configuring Engineering Settings

This section describes the settings used by operators only (in addition to the Basic settings described in [“Settings the WiMAX Connection Manager \(WCM\)” on page 15](#)), including the tabs: “Authentication”, “Advance”, “Channel Plan”, and “DM”.

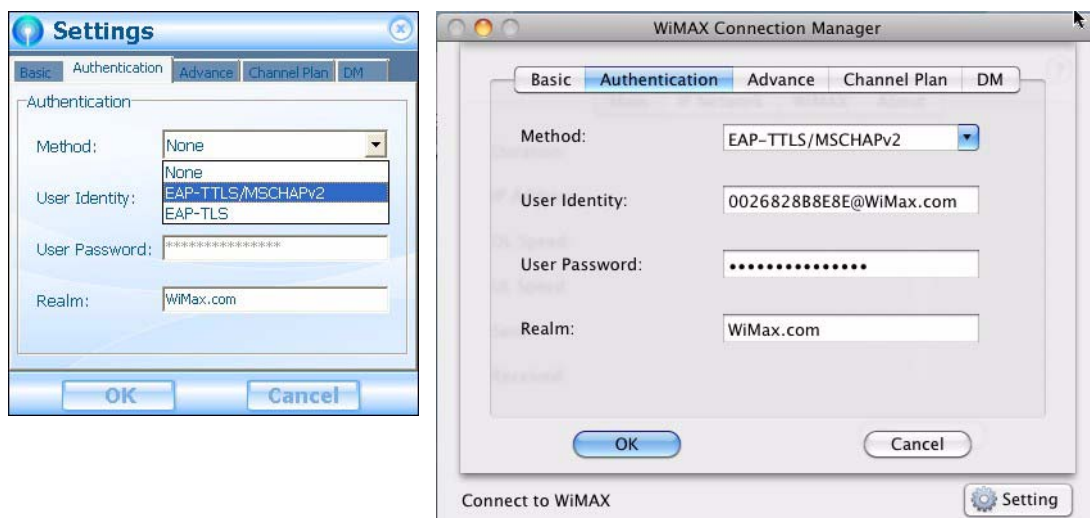
These settings are available for operators only (if the file *Engineer.dll* exists in the installation path).

To access the Engineering pages, click **Settings** in the main CM window (see [Figure 25](#)).

### 5.1 Authentication Settings

The Authentication tab includes settings for the WiMAX network authentication process.





**Figure 29: Settings: Authentication Tab (Windows and Macintosh)**

The following settings are available:

**Table 2: Authentication Settings**

Item	Description	Default
Method	<p>Select one of the following WiMAX security method</p> <ul style="list-style-type: none"> <li>■ None - authentication is disabled</li> <li>■ EAP-TTLS/MS-CHAPv2 - Extensible Authentication Protocol-Tunneled Transport Layer Security, supporting the Microsoft version of the Challenge-handshake authentication protocol, version 2.</li> <li>■ EAP-TLS - Extensible Authentication Protocol Transport Layer Security (not supported in current release).</li> </ul>	EAP-TTLS/MS-CHAPv2
User Identity	Enter the user name supplied by the service provider. The name is case sensitive. (If there is a problem in network entry, resolve this in the AAA by either changing the policy to case insensitive, or by adding a WiMax domain).	CPEMACaddr@WiMax.com
User Password	Enter the user password supplied by the service provider.	quickynikynyoky

**Table 2: Authentication Settings (Continued)**

Item	Description	Default
Realm	Enter the WiMAX domain for EAP used by the Supplicant. The value is case sensitive. (If there is a problem in network entry, resolve this in the AAA by either changing the policy to case insensitive, or by adding a WiMax domain.	WiMax.com

## 5.2 Advanced Settings

The Advance tab includes settings for the WiMAX network.

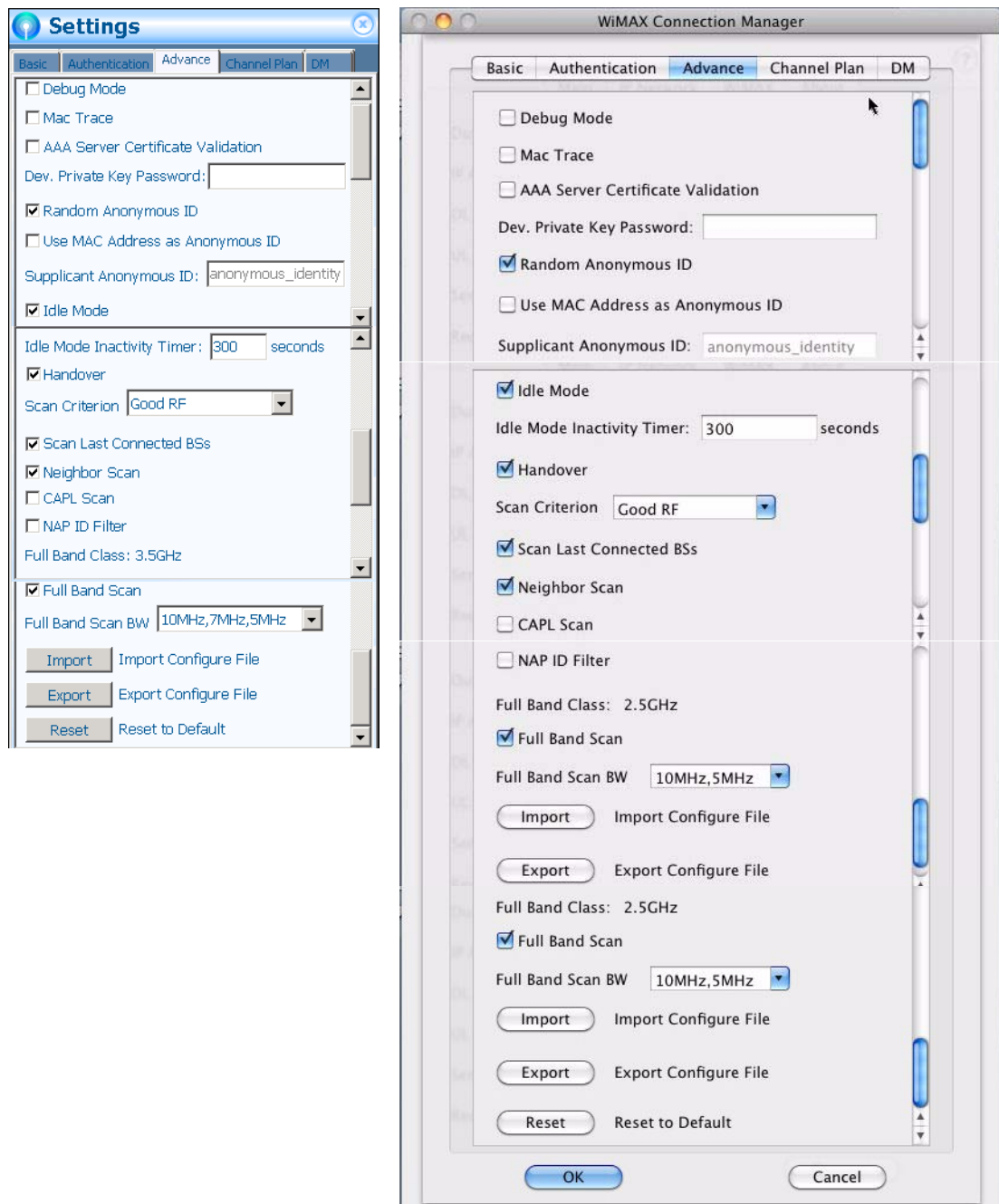


Figure 30: Settings - Advance Tab (Windows and Macintosh)

The following settings are available:

**Table 3: Advanced Settings**

Item	Description	Default	Comments
Debug Mode	Enable/disable outputting debug messages to the <i>debug.log</i> file in the installation path.	Disabled	
MAC Trace	Enable/disable the option to view Wimax MAC messages using an external application (e.g. Wireshark)	Disabled	The messages are saved in the following file <i>C:\Program Files\WiMAXCM\mactrace.pcap</i>
AAA Server Certificate Validation	Enable/disable validating the certificate sent from AAA server. If it is enabled, all possible root CAs of the server certificate sent by the BS are renamed and placed in the <i>Certs</i> directory in the installation path.	Disabled	
Dev. Private Key Password	The password of the device private key which is used if authentication method is set to "EAP-TLS".	N/A	See <a href="#">"Settings the WiMAX Connection Manager (WCM)"</a> on page 15.  TLS is not supported in current release.
Random Anonymous ID	Select this check-box to assign a random ID to the Supplicant. If disabled - the ID is the MAC_Address@realm.	Enabled	
Use MAC Address as Anonymous ID	Enable/disable using the MAC address of the device as the prefix of the supplicant identifying string (e.g 0001F0ABCDEF).	Disabled	
Supplicant Anonymous ID	If "Use MAC Address as Anonymous ID" is disabled, this setting is used as the prefix of the supplicant identifying string.	"anonymous_identity"	Up to 128 characters
Idle Mode	Enable/disable WiMAX idle mode.	Enabled	
Idle Mode Inactivity Timer	If idle mode is enabled and device is connected, the device will enter idle mode if there is no traffic for the specified interval. Enter the time in seconds.	300 seconds	

Table 3: Advanced Settings (Continued)

Item	Description	Default	Comments
Handover	Enable/disable WiMAX handover.	Enabled	
Scan Criterion	<p>Select the scanning method for network entry:</p> <ul style="list-style-type: none"> <li>■ Good RF - the device will scan the whole band in current scan type and find out the BS with the best RF condition to perform network entry.</li> <li>■ Time to connect - the device will not scan the whole band if it has already discovered some BSs and can associate to one of them.</li> </ul>	Good RF	
Scan Last Connected BSs	Enable/disable scanning the last BSs which the device has previously connected to.	Enabled	
Neighbor Scan	Enable/disable connecting to the BSs close to the last connected BS.	Enabled	
CAPL Scan	Enable/disable CAPL scan. Detailed settings of this option are configured in the "Channel Plan" tab.	Disabled	See <a href="#">"Channel Plan Settings" on page 29</a>
NAP ID Filter	Enable/disable filtering Network Access Point ID (NAP ID) when performing CAPL scan. Detailed settings of this option are configured in the "Channel Plan" tab.	Disabled	See <a href="#">"Channel Plan Settings" on page 29</a>
Full Band Class	The unit's bandwidth (read-only)	NA	
Full Band Scan	Enable/disable scanning the full band for best BS.	Enabled	
Full Band Scan BW	The bandwidth priority for full band scan. The options vary according to the different channel bands.	<ul style="list-style-type: none"> <li>■ 2.3/2.5 GHz: 10MHz, 5MHz</li> <li>■ 3.5 GHz: 10MHz, 7MHz, 5MHz</li> </ul>	In all combinations
Import Configure File	Click <b>Import</b> to apply parameters of a different configuration file to your unit.		Any configuration changes you have made are removed and the imported configuration parameters are applied to the unit.

Table 3: Advanced Settings (Continued)

Item	Description	Default	Comments
Export Configure File	Click <b>Export</b> to create a new Configuration file that will include all the currently configured parameters.		Refer to <a href="#">“Creating a Default Configuration File” on page 37</a>
Reset to Default	Click <b>Reset</b> to restore all parameters to factory defaults. The default Configuration file is reloaded, overriding any configuration changes you may have performed on the CPE.		Any configuration changes you have made are removed and the factory default configuration is restored to the unit.

### 5.3 Channel Plan Settings

The Channel Plan tab includes settings for the sixteen WiMAX CAPL channel plans and two CAPL scan lists. Scroll down to view all the parameters.

The Channel Allocation Priority Level (CAPL) is a method by which the network is scanned. The system allocates priority to channels for scanning order. RefID is a result of mapping from IDs into a scan list from the channel plan.

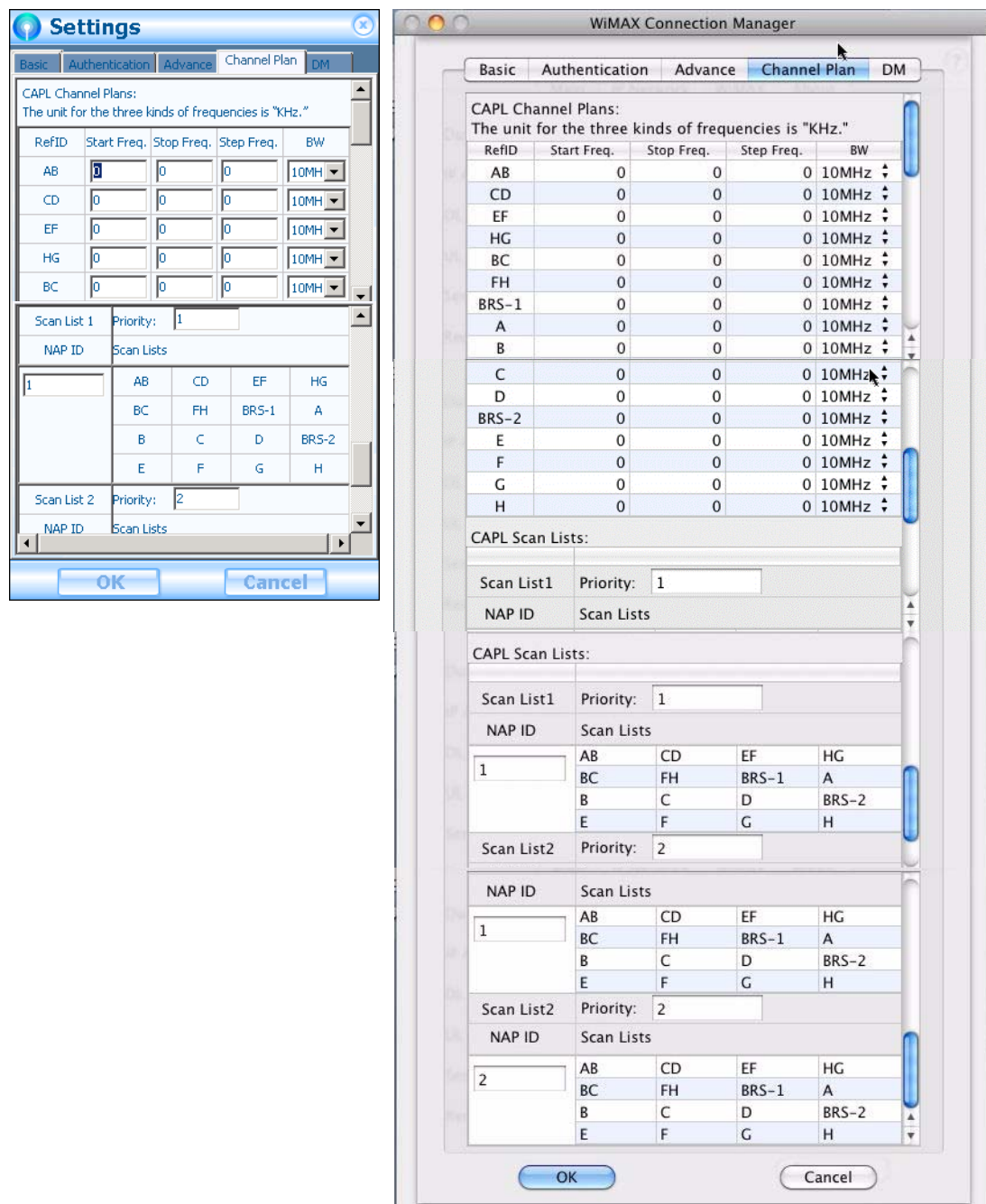


Figure 31: Settings Channel Plan Tab (Windows and Macintosh)

The following settings are available for setting the CAPL plan:

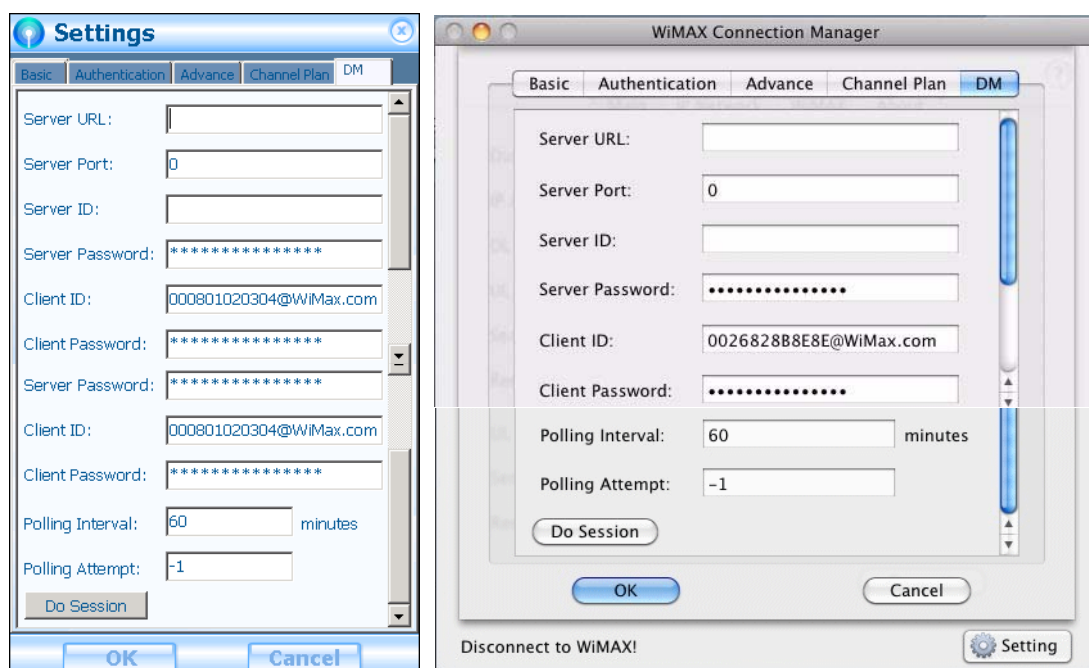
**Table 4: Channel Plan Settings**

Item	Description	Default	Comments
<b>CAPL Channel Plan</b>			
Start Freq.	Start center frequency (in KHz).	0 for all 16 channels	
Stop Freq.	End center frequency (in KHz).	0 for all 16 channels	
Step Freq.	Center frequency step. The values should be multiples of 250 KHz.	0 for all 16 channels	
BW	Bandwidth options: 5MHz, 7MHz, and 10MHz.	10MHz for all channels	
<b>CAPL Scan Lists (1, 2)</b>			
Priority	The priority of scan list. When performing CAPL scan, the scan list with lower number of priority will be used first.	Scan List 1: 1 Scan List 2: 2	CAPL Scan is enabled/disabled in the Advance tab.
NAPID	Network Access Point ID - If "NAPID Filter for CAPL Scan" is enabled, this setting will be used to filter the scan results.	Scan List 1: 1 Scan List 2: 2	"NAPID Filter for CAPL Scan" is enabled/disabled in the Advance tab.

## 5.4 Device Management (DM) Settings

The DM tab includes settings for OMA-DM (Open Mobile Alliance Device Management) client.





**Figure 32: Settings - DM Tab (Windows and Macintosh)**

The following settings are available:

**Table 5: DM Parameters**

Item	Description	Default	Comments
Server URL	URL of OMA-DM server.	N/A	Range: Up to 128 characters
Server Port	Port number of OMA-DM server.	0	Range: 0 to 65535
Server ID	Identification for OMA-DM client to login to server side.	N/A	Range: Up to 128 characters
Server Password	Password for OMA-DM client to login to the server side.	quickynikynyoky	Range: Up to 128 characters
Client ID	Identification for OMA-DM server to login to client side.	CPEMACaddr@WiMax.com	Range: Up to 128 characters
Client Password	Password for OMA-DM server to login to client side.	quickynikynyoky	Range: Up to 128 characters
Polling Interval	Time (in minutes) between each polling attempt (the OMA client queries the server for data).	60 minutes	Range: 1~2147483647
Polling Attempt	Number of polling actions with defined interval	-1 (infinite polling attempts)	Range: -1~2147483647

**Table 5: DM Parameters**

Item	Description	Default	Comments
Do Session	Click this button to initiate an immediate connection between OMA-DM server and client.	N/A	Meant mainly for testing purposes. When clicking "Do Session", the CPE will send a keep-alive packet and determine the OMA server to send the tasks faster.

## 5.5 Software Upgrade

This section describes how to update your WiMAX Connection Manager. When a new version is available, a new .exe file is sent to the user, or the operator upgrades the unit remotely via OMA-DM, as described in [“Remote Software Upgrade Via OMA-DM” on page 33](#).

## 6. Remote Software Upgrade Via OMA-DM

Software upgrade performed from the OMA-DM server only upgrades the firmware on the host computer to which the device is connected, not on the unit's flash-drive.

### 6.1 Upgrade Procedure



#### To upgrade the software using OMA-DM:

- 1 Create a .zip package containing the following:
  - » Installer executable file (\*.exe) for the specific device, provided by Alvarion. Choose the suitable file, 2.3 GHz, 2.5 GHz or 3.5 GHz.
  - » An xml file with the following content:

```

-----
<?xml version="1.0"?>
<!DOCTYPE updates
PUBLIC "-//Insignia Solutions//DTD SSP LoadUpdatePackages 1.0//EN"
"http://www.insignia.com/dtd/ssp-upload-update-packages_1_0.dtd">

```

```
<updates>
```

```
<update>
```

```
<model-name>WIXUBB-105</model-name>
```

```
<manufacturer-external-id>Alvarion</manufacturer-external-id>
```

```
<from-image-external-id> firmware_version_already_on_the_device</from-image-external-id>
```

```
<to-image-external-id>firmware_version_to_be_loaded</to-image-external-id>
```

```
<bytes filename="installer_file_name.exe">
```

```
</update>
```

```
</updates>
```

#### NOTE



Values in **bold text** must be replaced with the values applicable for each specific upgrade package according to the device type, running firmware version and upgrade firmware version.

- In the USB web interface select the Updates tab (see Figure 33), click **Upload Update Packages**. Click **Browse** and select the location of the .zip package created in step 1. Click **Upload** and **Submit** and wait for the upload to complete.

Upon upload completion, the package appears in the list of the Updates tab.

Updates

Upload Update Workflow   Upload Update Packages

Showing 1 - 3 of 3 | First | Previous | Next | Last

Update Id	Manufacturer	Model Name	From Image Id	To Image Id
2005	Alvarion	WIXUBB-105	0.9.7.0	0.9.6.0
2006	Alvarion	WIXUBB-105	0.9.6.0	0.9.7.0
2009	Alvarion	WIXUBB-105	0.9.8.0	0.9.7.0

Showing 1 - 3 of 3 | First | Previous | Next | Last

Figure 33: USB Web Interface - Updates Tab

- 3 Click on the Update ID for the specific task; The Update Details page is displayed (Figure 34).

Update Detail

Update Id: 2010  
 Manufacturer: Alvarion  
 Model Name: [WIXUBB-105](#)  
 From Image Id: 0.9.8.0  
 To Image Id: 0.9.7.0  
 Description: -  
 Size: 7272725 bytes

Applicable Tenants:

Tenant Name	Status	Action
<a href="#">WIMAX</a>	Ready For Testing	<a href="#">Start Testing</a>

[Do Action](#)

Figure 34: Update Details Page

- 4 Select Action > **Start Testing**, and click **Do Action**. The Update Status Change window is displayed.

Update Status Change

Please confirm the following actions for this update:

Update Id: 2010  
 Manufacturer: Alvarion  
 Model Name: [WIXUBB-105](#)  
 From Image Id: 0.9.8.0  
 To Image Id: 0.9.7.0  
 Description: -  
 Size: 7272725 bytes

Actions:

Tenant Name	Current Status	Action
<a href="#">WIMAX</a>	Ready For Testing	<a href="#">Start Testing</a>

[Confirm](#)

Figure 35: Update Status Change Page

- 5 Click **Confirm** to approve the change.
- 6 Select the Devices tab from the server interface (see Figure 36) and select the device you want to upgrade from the list. The Device Details window is displayed (see Figure 37).

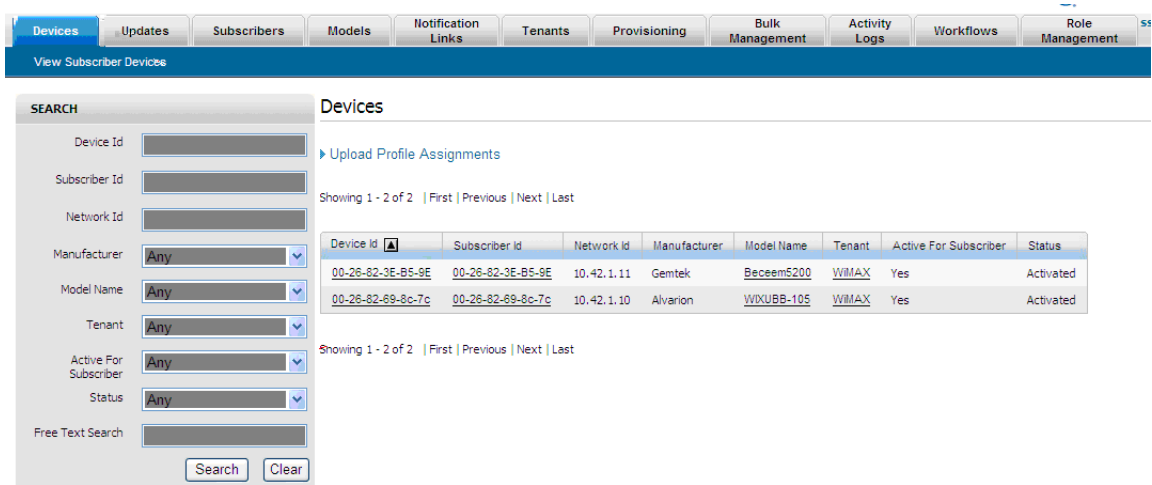


Figure 36: Devices Tab

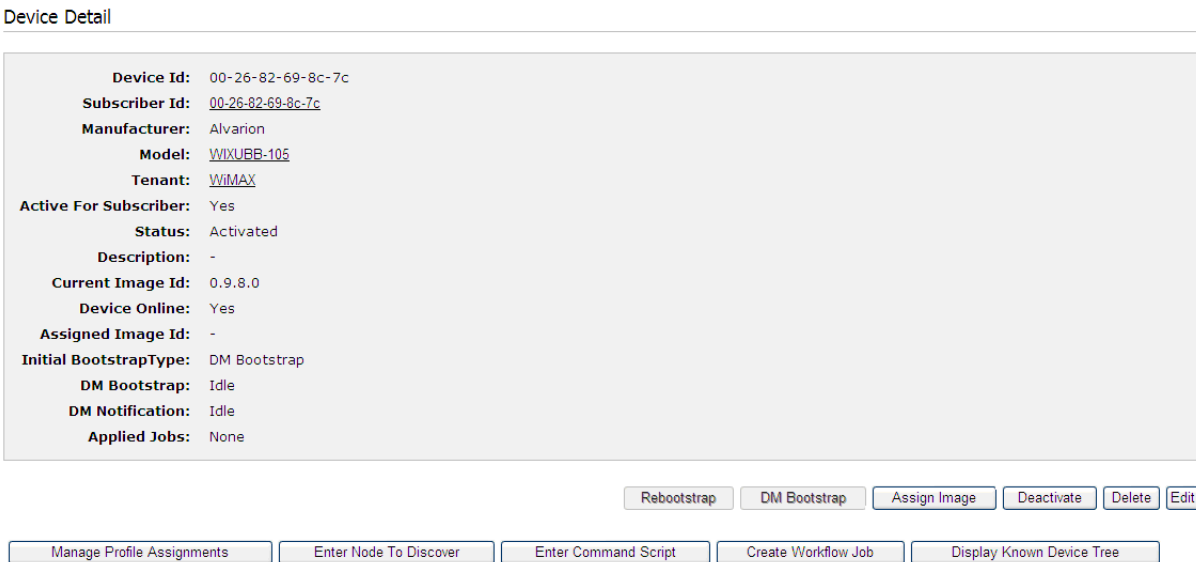


Figure 37: Device Details Page

- 7 In the Device Detail page, click **Assign Image**; The Assign Image window is displayed. Select the upgrade task to be performed and click **Next**. Follow the instructions on the screen to assign and confirm the action.



NOTE

Only tasks that have the correct model name and manufacturer ID (“from-image-external-id” parameter identical to the “./DevDetail/SwV” parameter, and “to-image-external-id” different from the “from-image-external-id”) are available in the list.

- 8 When the firmware installer file download is complete, the following message is displayed, allowing the user to choose if to install the new firmware or not.



**Figure 38: WiMAXCM Update**

If the user chooses OK, the application closes and the installer for the new firmware starts automatically (the user follows the instructions on the screen). When the new software is installed, the management application restarts and sends a notification to the server confirming that the upgrade was successful - (EXEC completed / Update successful) immediately after connecting to the WiMax network.

If the user chooses Cancel, the existing version of the management application will continue running and a notification is sent to the server, containing ALERT(401) - Update installation failed code. The new firmware image remains in *C:\Program Files\WiMAXCM\oma\temp* folder, but it is not installed automatically the next time the management application is restarted.

## 6.2 Creating a Default Configuration File

This section explains how to create a default configuration file for automatic configuration. When applying this file to the unit, all the parameters will automatically be configured with the values from the file. When resetting the unit to factory defaults - this file is reloaded, overriding any configuration changes you may have performed on the CPE.



### To create a configuration file:

- 1 Choose a CPE from which to create the default configuration file.
- 2 Configure the settings of the CPE as described in this manual.
- 3 Select the Advance tab of the Settings window and click **Export**. A file is created and you can save it for later auto-configuration of additional CPEs.

## 7. Glossary

This section details terms used in this manual.

<b>Authentication</b>	The process to verify the identity of a client requesting network access. IEEE 802.11 specifies two forms of authentication: open system and shared key.
<b>BS</b>	Base Station
<b>Channel Allocation</b>	CAPL scan list is defined by the customer provisioned list.
<b>Priority Level (CAPL)</b>	There are some parameters with CAPL scan: NAPID, priority and RefID.  NAPID is used to filter some BS if the NAPID is not matched.  Priority is the customer defined priority scan order. Higher priority will be scanned first.  RefID is a result of mapping from IDs into a scan list from the channel plan.
<b>Extensible Authentication Protocol (EAP)</b>	An authentication protocol used to authenticate network clients. EAP is combined with IEEE 802.1X port authentication and a RADIUS authentication server to provide “mutual authentication” between a client, the access point, and the a RADIUS server.
<b>EAP-Transport Layer Security (EAP-TLS)</b>	A cryptographic protocol that provides secure communications on the Internet for web browsing, e-mail, Internet faxing, instant messaging and other data transfers.
<b>EAP-Tunneled Transport Layer Security (EAP-TTLS)</b>	An EAP protocol that extends TLS.
<b>Handover</b>	The WiMAX Handover mechanism was defined to maintain uninterrupted user communication session during their movement from one location to another.
<b>IEEE 802.16e</b>	A standard that provides mobile broadband wireless access using Scalable Orthogonal Frequency Division Multiple Access (SOFDMA).
<b>MSCHAPV2 (MS-CHAP. v2)</b>	Microsoft version of the Challenge-handshake authentication protocol, version 2. MS-CHAPv2 provides mutual authentication between peers by adding a peer challenge upon the Response packet and an authenticator response on the Success packet.

<b>mRCT</b>	Mobile Radio Conformance Test
<b>Network Access Point (NAP)</b>	Network exchange point equipped with large-scale switching facilities and serving as a connection point between individual Internet Service Providers
<b>Open Mobile Alliance (OMA)</b>	OMA DM (device Management) is a protocol specified by Open Mobile Alliance (OMA) for Device Management purposes, by the Device Management Working Group and the Data Synchronization (DS) Working Group. The communication protocol is a request-response protocol.